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# Forest Pest Management

## Pacific Southwest Region



August 13, 1999

File Code: 3420

To: County Agricultural Commissioner  
Plumas County

Subject: Field Identification of Conifer Insects on Private Property (NE99 - 6)

On July 29, 1999, I examined several trees on private property located at 3736 Lake Almanor Drive, Lake Almanor, CA, Plumas County. The property is the private residence of Don and Gisela Wilson. I examined several small white fir trees that were infested with black pineleaf scale, *Nuculaspis californica* and balsam twig aphid, *Mindarus abietinus*. I also observed pine needle scale, *Chionaspis pinifoliae*, and pine adelgids, *Pineus* sp. on small ponderosa pines. All insects were found on suppressed trees growing under large dominant trees or on trees that were growing next to structures. The following provides some detailed information on the specific insects and control measures if needed. Mr. Wilson also questioned the presence of gall-like formation on the chokecherries on his property.

Host: Ponderosa pine

### Pine needle scale

#### Identification and Lifecycle

Pine needle scales are easily recognized by their narrow, white, waxy covering with a yellow spot at one end. Heavy infestations can give a gray cast to the entire tree and the

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needles may yellow and become stunted. Small trees, saplings and poles, especially along dusty roads are often so heavily infested that the foliage appears white. Sometimes this insect kills the trees but more often weakens them and slows their growth. The scale overwinters as a red egg underneath the white covering of the female. The eggs hatch in the spring and the "mobile" crawler stage moves to feeding sites on the needles. Crawlers do not have a waxy covering and are the stage most susceptible to control measures. Once settled, the crawler remains in place and continues development to the adult stage.

### **Control**

Insecticidal soap, diazinon, chlorpyrifos, malathion or acephate may be used to control the scales. Control efforts need to be targeted toward the crawler stage. Thorough spray coverage is needed for control. A dormant oil spray in early spring before new growth develops can also be an effective control measure. Oil-sensitive plants listed under the Precautions section of the label should NOT be treated.

## **Pine adelgid**

### **Identification and Lifecycle**

Pine adelgids are small, dark, aphid like insects that are covered with a cottony wax secretion. *Pineus* sp. feed on the needles, twigs and bark of many western pine species. The white, waxy secretions are conspicuous on young ponderosa and lodgepole pines. The biology and life history of the conifer adelgids is complex and not well known.

### **Control**

Control by spraying is best accomplished when directed against the immature stages, particularly in the spring.

Host: White fir

## **Black pineleaf scale**

### **Identification and Lifecycle**

The black pineleaf scale belongs to a group of sucking insects called armored scales. Infestations of this scale occur only on the needles. The adult scale coverings are grayish-black and have a light colored central prominence. They cause injury by sucking plant juices from the tree, and possibly by introducing toxic substances into the needles as they feed. Infested needles become spotted or blotched with yellow patches. Heavy infestations may cause premature needle drop and in extreme cases death of the tree. The sequence of symptom expression begins with thin crowns, followed by reddish discoloration, chlorosis and finally necrosis of the needles.

The insect passes through three life stages: egg, nymph and adult. The eggs are laid in masses under the immobile female. The eggs hatch within a few days into the nymph or "crawler" stage. The crawlers move freely along the needles, and many are transported to

new hosts by air currents. Most population dispersal takes place during this stage. When the crawlers settle, they secrete a waxy covering and lose their appendages and mobility.

### **Control**

Infestations are commonly associated with environmental conditions that disrupt the normally effective control exerted by the scale's natural enemies. Accumulations of dust from roads have been known to cause outbreaks of this insect. The use of insecticides, targeted at the crawler stage, can control infestations. Insecticidal soap, diazinon, chlorpyrifos, malathion or acephate may be used to control the scales. Thorough spray coverage is needed for control.

## **Balsam twig aphid**

### **Identification and Lifecycle**

The balsam twig aphid has a complex life history. Three distinct forms of aphids occur during the single generation this insect has each year. Overwintering eggs hatch in the spring producing various forms of the adult stage. These aphids produce copious amounts of honeydew. Droplets can be found scattered over the surface of the needles or clinging to the powdery, waxy material associated with these insects. When the aphid population is heavy, shoots become saturated and the needles adhere to one another. The feeding causes the needles to twist and curl. Injury occurs primarily in May and June.

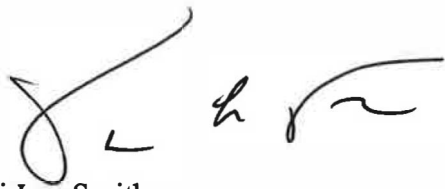
### **Control**

This insect can be controlled using insecticides registered for use on aphids. An application of soapy water may work as well in the spring when the aphids are first noticed.

Host: Common Chokecherry

The galls on the choke cherry are caused by mites that belong to the family Eriophyidae. This family of mites can cause much concern among tree owners who are not aware that the colorful galls are rarely detrimental to the tree. Early spring foliage is typically affected. When the mites inside the galls mature, they move from the galls to newly developing leaves and initiate more galls. Mite activity decreases as the growing season progresses. Sufficient foliage unaffected by galls is produced during the growing season to sustain the trees without serious harm.

If I can be of further assistance, please contact me at 530-252-6667.

A handwritten signature in black ink, appearing to read 'S. Lee Smith', with a large loop at the beginning and a horizontal flourish at the end.

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NE CA Shared Service Area  
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cc: Mr. Don Wilson